26. (Twice amended) The method of claim 23, further comprising culturing the stem cells in the presence of a c-kit ligand in a concentration range of about 5 ng/mL to about 200 ng/mL.

C2

27. (Twice amended) The method of claim 25, further comprising culturing the stem cells in the presence of a c-kit ligand in a concentration range of about 5 ng/mL to about 200 ng/mL.

C3

31. (Amended) The method according to claim 23, wherein the effective amount of TPO and FL individually is in the range of about 5 ng/mL to about 200 ng/mL and the effective amount of [IL6]IL-6 is in the range of about 10 ng/mL to about 100 ng/mL.

37. (Twice amended) A method of transducing human $CD34^+$ hematopoietic cells including a subpopulation of hematopoietic stem cells comprising:

a) obtaining a source of hematopoietic cells including the subpopulation of hematopoietic stem cells;

C4

b) culturing said cells with fibronectin and the cytokines thrombopoietin (TPO), flt3 ligand (FL), and interleukin 6 (IL-6), individually provided in the range of about 0.1 ng/mL to about 500 ng/mL;

c) infecting the cultured cells with a retroviral vector including a polynucleotide sequence encoding a heterologous gene; and

d) obtaining transduced cells wherein said gene is expressed.

39. (Amended) The method according to claim 37, further comprising culturing the cells in the presence of an effective amount of leukemia inhibitory factor (LIF) wherein said effective amount is in the range of about 5 ng/mL to about 200 ng/mL.

C5

40. (Amended) The method according to claim 37, further comprising culturing the cells in the presence of an effective amount of IL-3 wherein said effective amount is in the range of about 10 ng/mL to about 100 ng/mL.